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EXAMINER

TYLER, NATHAN K

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/763,165	Applicant(s) ISHIZUKA, DAISUKE	
	Examiner Nathan K. Tyler	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>25032004; 05102004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

3. Claims 16-22, 24-29 and 31-33 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 16 defines a "program" embodying functional descriptive material. However, the claim does not define a computer-

readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). That is, the scope of the presently claimed "program" can range from paper on which the program is written, to a program simply contemplated and memorized by a person. This rejection also applies to independent claims 24 and 31, which also define a "program," as well as claims 17-22, 25-29, and 32-33, which depend from claims 16, 24, and 31 respectively. The examiner suggests amending the claims to embody the program on "computer-readable medium" or equivalent in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-5, 8-11, 14, 16-20, 23-27, 30, 31, 33-38, 41-44, and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Hsieh et al. (US 6236770 B1)

Regarding **claim 1**, Hsieh discloses a movable image sensing unit (with reference to Fig. 1: "...a scanning module 20 installed under the platform 18 for scanning documents placed on the platform 18" at column 1, line 19) that scans at least one document image arranged on a document plate while moving relative to the at least one document image (Fig. 1, document plate 18. As shown in Fig. 3, the scanning module is moved relative to the document(s)); and a controller that controls the relative movement between said image sensing unit and the at least one document image (Fig. 3 shows that the scanning module is moved relative to the transparent platform) such that when plural document images arranged on the document plate are scanned, the relative movement is temporarily stopped after completion of scanning one of the plural document images and before starting scanning a next of the plural document images (See Fig. 3. After one area (document) is scanned, the scanning module is returned to the front end before scanning the next area (document). Because the scanning module scans front to back, the movement of the scanning module must be reversed. This transition from positive to negative velocity will cause the module to stop, at least briefly, before scanning the next area).

Regarding **claim 2**, Hsieh discloses that the controller moves said image sensing unit to a home position after the relative movement is temporarily stopped (Fig. 3, step 48 "move scanning module to front end").

Regarding **claim 3**, Hsieh discloses that the controller moves said image sensing unit in a direction opposite to a sub-scanning direction a particular distance after the relative movement is temporarily stopped (See grounds for rejection for claims 1 and 2. After the movement is stopped as the direction of the scanning module is reversed, the scanning module is moved opposite to the sub scanning direction a particular distance to the home position).

Regarding **claim 4**, Hsieh discloses that the particular distance is calculated from at least one of a scanning speed, a scanning resolution, a space between documents in a sub-scanning direction, and a minimum distance needed to accelerate said image sensing unit to the scanning speed (see Fig. 2 and Fig. 4, step 62 “move scanning module to next scanning position.” When two documents overlap in the sub-scanning direction, the scanning module is moved a particular distance equal to the amount of overlap between the end of one document and the beginning of the next document (space between documents)).

Regarding **claim 5**, Hsieh discloses that the controller moves said image sensing unit in the direction opposite to the sub-scanning direction when at least one of (i) the plural document images overlap in the direction of the relative motion between said image sensing unit and the document images (Fig. 4, step 62. After scanning a first area, the scanning module is moved to the start of the next area. As shown in Fig. 2, if the areas overlap, the scanning module is moved from the end of area 32, to the beginning of area 34, in a direction opposite to the sub-scanning direction), and (ii) a larger distance is needed between the document images to accelerate said image sensing unit to a necessary speed.

Regarding **claim 8**, Hsieh discloses a movable image sensing unit that scans at least one document image arranged on a document plate while moving relative to the at least one

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document image (see grounds for rejection for claim 1); and a controller that controls the relative movement of said image sensing unit such that when plural document images arranged on the document plate are scanned, said controller moves said image sensing unit a particular distance in a direction opposite to a sub-scanning direction after completion of scanning one of the plural document images and before starting scanning a next of the plural document images (see grounds for rejection for claim 3).

Regarding **claim 9**, Hsieh discloses that the controller moves said image sensing unit in the direction opposite to the sub-scanning direction to a home position (see grounds for rejection for claim 2).

Regarding **claim 10**, Hsieh discloses that the particular distance is calculated from at least one of a scanning speed, a scanning resolution, a space between documents in a sub-scanning direction, and a minimum distance needed to accelerate said image sensing unit to the scanning speed (see grounds for rejection for claim 4).

Regarding **claim 11**, Hsieh discloses that the controller moves said image sensing unit in the direction opposite to the sub-scanning direction when at least one of (i) the one and next document images overlap in the direction of the relative movement between said image sensing unit and the document images (see grounds for rejection for claim 5), and (ii) a larger distance is needed between the one and next document images to accelerate said image sensing unit to a scanning speed.

Regarding **claim 14**, Hsieh discloses a movable image sensing unit that scans one or more document images by moving relative to the document images (see grounds for rejection for claim 1); and a controller that controls the movement of said image sensing unit such that said

image sensing unit moves a minimum distance when the document images are scanned (See Fig. 3, the scanner determines the area of the image to be scanned, and then at step 46, scans only the area covered by that image. This will cause the scanning module to move the minimum amount possible while still capturing the entire image).

Regarding **claim 16**, Hsieh discloses a control program for controlling an image scanning apparatus (see Fig. 5, numeral 104 "scanning control program." While the computer (numeral 14) in Fig. 1 is not explicitly shown to have a control program, it is understood that the scanners and computers in Figs. 1 and 5 operate in a similar fashion) comprising the step of: controlling the movement of the image sensing unit such that the relative movement is temporarily stopped after completion of scanning one of the document images arranged on the document plate and before scanning a next of the document images (see grounds for rejection for claim 1).

Regarding **claim 17**, Hsieh discloses that in the control step, the image sensing unit is moved to a home position after the relative movement is temporarily stopped (see grounds for rejection for claim 2).

Regarding **claim 18**, Hsieh discloses that in the control step, the image sensing unit is moved a particular distance in a direction opposite to a sub-scanning direction after the relative movement is temporarily stopped (see grounds for rejection for claim 3).

Regarding **claim 19**, Hsieh discloses that the particular distance is calculated from at least one of a scanning speed, a scanning resolution, a space between documents in a sub-scanning direction, and a minimum distance needed to accelerate the image sensing unit to the scanning speed (see grounds for rejection for claim 4).

Regarding **claim 20**, Hsieh discloses that in the control step, the image sensing unit is moved in the direction opposite to the sub-scanning direction when at least one of (i) the one and next document images overlap in the direction of the relative movement between the image sensing unit and the document images (see grounds for rejection for claim 5), and (ii) a larger distance is needed between the one and next document images to accelerate the image sensing unit to a scanning speed.

Regarding **claim 23**, Hsieh discloses a computer-readable storage medium on which a control program according to claim 16 is stored ("The computer 74 comprises a memory 102 with a scanning control program 104... stored in it" at column 3, line 18. See grounds for rejection for claim 16).

Regarding **claim 24**, Hsieh discloses a control program for controlling an image scanning apparatus (see grounds for rejection for claim 16) comprising the step of: controlling the relative movement of the image sensing unit such that the image sensing unit is moved a particular distance in a direction opposite to a sub-scanning direction after completion of scanning a first of the document images arranged on the document plate and before scanning a next of the document images (see grounds for rejection for claim 8).

Regarding **claim 25**, Hsieh discloses that in the control step, the image sensing unit is moved in the direction opposite to the sub-scanning direction to a home position (see grounds for rejection for claim 2).

Regarding **claim 26**, Hsieh discloses that the particular distance is calculated from at least one of a scanning speed, a scanning resolution, a space between documents in a sub-scanning

direction, and a minimum distance needed to accelerate the image sensing unit to the scanning speed (see grounds for rejection for claim 4).

Regarding **claim 27**, Hsieh discloses that in the control step, the image sensing unit is moved relatively backwardly when at least one of (i) the one and next document images overlap in the direction of the relative motion between the image sensing unit and the document images (see grounds for rejection for claim 5) and (ii) a larger distance is needed between the one and next document images to accelerate the image sensing unit to a scanning speed.

Regarding **claim 30**, Hsieh discloses a computer-readable storage medium on which a control program according to claim 24 is stored (see grounds for rejection for claims 23 and 24).

Regarding **claim 31**, Hsieh discloses a control program for controlling an image scanning apparatus (see grounds for rejection for claim 16) comprising the step of: controlling the relative movement of the image sensing unit such that the image sensing unit moves a minimum distance to scan all of the document images (see grounds for rejection for claim 14).

Regarding **claim 33**, Hsieh discloses a computer-readable storage medium on which a control program according to claim 31 is stored (see grounds for rejection for claims 23 and 31).

Regarding **claim 34**, Hsieh discloses a scanning method comprising the steps of: scanning a plurality of document images arranged on a document plate (see Fig. 2, plurality of documents on document plate 18) while moving an image sensing unit relative to the plurality of document images (see grounds for rejection for claim 1); and controlling the relative movement of the image sensing unit such that the relative movement is temporarily stopped after completion of scanning one of the plurality of document images arranged on the document plate

and before scanning a next of the plurality of document images (see grounds for rejection for claim 1).

Regarding **claim 35**, Hsieh discloses that in the controlling step, the image sensing unit is moved to a home position after the relative movement is temporarily stopped (see grounds for rejection for claim 2).

Regarding **claim 36**, Hsieh discloses that in the controlling step, the image sensing unit is moved a particular distance in a direction opposite to a sub- scanning direction after the relative movement is temporarily stopped (see grounds for rejection for claim 3).

Regarding **claim 37**, Hsieh discloses that the particular distance is calculated from at least one of a scanning speed, a scanning resolution, a space between documents in a sub-scanning direction, and a minimum distance needed to accelerate the image sensing unit to the scanning speed (see grounds for rejection for claim 4).

Regarding **claim 38**, Hsieh discloses that in the control step, the image sensing unit is moved in the direction opposite to the sub-scanning direction when at least one of (i) the one and next document images overlap in the direction of the relative movement between the image sensing unit and the document images (see grounds for rejection for claim 5), and (ii) a larger distance is needed between the one and next document images to accelerate the image sensing unit to a scanning speed.

Regarding **claim 41**, Hsieh discloses a scanning method comprising the steps of: scanning a plurality of document images arranged on a document plate while moving an image sensing unit relative to the plurality of document images; and controlling the relative movement of the image sensing unit such that the image sensing unit is moved a particular distance in a

direction opposite to a sub-scanning direction after completion of scanning a first of the plurality of document images arranged on the document plate and before scanning a next of the plurality of document images (see grounds for rejection for claim 8).

Regarding **claim 42**, Hsieh discloses that in the controlling step, the image sensing unit is moved in the direction opposite to the sub-scanning direction to a home position (see grounds for rejection for claim 9).

Regarding **claim 43**, Hsieh discloses that the particular distance is calculated from at least one of a scanning speed, a scanning resolution, a space between documents in a sub-scanning direction, and a minimum distance needed to accelerate the image sensing unit to the scanning speed (see grounds for rejection for claim 4).

Regarding **claim 44**, Hsieh discloses that in the controlling step, the image sensing unit is moved relatively backwardly when at least one of (i) the one and next document images overlap in the direction of the relative motion between the image sensing unit and the document images (see grounds for rejection for claim 5) and (ii) a larger distance is needed between the one and next document images to accelerate the image sensing unit to a scanning speed.

Regarding **claim 47**, Hsieh discloses a scanning method comprising the steps of: scanning a plurality of document images while moving an image scanning sensing unit relative to the plurality of document images; and controlling the relative movement of the image sensing unit such that the image sensing unit moves a minimum distance to scan all of the document images (see grounds for rejection for claim 14).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6, 12, 21, 28, 39, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hsieh '770 and Hsieh et al. (US 6005688 A).

Regarding **claim 6**, while Hsieh '770 discloses the limitations of claim 2, from which claim 6 depends, Hsieh '770 does not disclose that the controller moves said image sensing unit to the home position after each document image is read when an operation mode requires that calibration data be acquired each time a document image is scanned.

Hsieh '688 discloses a scanning system in which the image sensing unit of the scanner returns to a home position in order to perform calibration for the next document to be read (Fig. 2A, after scanning a document, the image sensing unit returns to a home position at step 203, performs calibration at step 201, and the scans the next document at step 202).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to return the image sensing unit disclosed by Hsieh '770 to a home position to perform calibration as taught by Hsieh '688, as recalibrating in between each scan will provide the most accurate image possible ("a calibration is performed to compensate the photo response non-

uniformity of the light source, the charge-coupled device and the lens of the scanner” at column 1, line 30).

Regarding **claim 12**, the combination of Hsieh ‘770 and Hsieh ‘688 as applied to claim 6 discloses that the controller moves said image sensing unit to the home position when an operation mode requires that calibration data be acquired each time a document image is scanned (see grounds for rejection for claim 6).

Regarding **claim 21**, the combination of Hsieh ‘770 and Hsieh ‘688 as applied to claim 6 discloses that the image sensing unit moves to the home position when an operation mode requires that calibration data be acquired each time a document image is scanned (see grounds for rejection for claim 6).

Regarding **claim 28**, the combination of Hsieh ‘770 and Hsieh ‘688 as applied to claim 6 discloses that the image sensing unit is moved to the home position when an operation mode requires that calibration data be acquired each time a document image is scanned (see grounds for rejection for claim 6).

Regarding **claim 39**, the combination of Hsieh ‘770 and Hsieh ‘688 as applied to claim 6 discloses that the image sensing unit is moved to the home position when an operation mode requires that calibration data be acquired each time a document image is scanned (see grounds for rejection for claim 6).

Regarding **claim 45**, the combination of Hsieh ‘770 and Hsieh ‘688 as applied to claim 6 discloses that the image sensing unit is moved to the home position when an operation mode requires that calibration data be acquired each time a document image is scanned (see grounds for rejection for claim 6).

8. Claims 7, 13, 15, 22, 29, 32, 40, 46, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hsieh and Suzuki et al. (US 5239392 A).

Regarding **claim 7**, while Hsieh discloses the limitations of claim 1, from which claim 7 depends, Hsieh does not disclose that the document images are a plurality of frames of images formed on a photographic film.

Suzuki discloses a fixed document scanner (“A reading apparatus of the invention has first and second reading parts slidable along the document surface.” At column 1, line 50) that is capable of scanning images formed on photographic film (“The single reading apparatus of the invention can select... high resolution reading a small-sized light-permeable document, such as a photographic film” at column 1, line 54).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to provide the scanner disclosed by Hsieh with the photographic film scanning elements taught by Suzuki, so that an accurate image of the photographic film could be obtained (“it is difficult to accurately position the film, and an accurate image may not be obtained” at column 1, line 30. “A fourth object of the invention is to provide a reading apparatus which the longitudinal direction of a holder for holding the film, in other words, the film juxtaposing direction, is coincident with the main scanning direction or the sub-scanning direction of a document table” at column 2, line 5).

Regarding **claim 13**, the combination of Hsieh and Suzuki as applied to claim 7 discloses that the document images are a plurality of frames of images formed on a photographic film (see grounds for rejection for claim 7).

Regarding **claim 15**, the combination of Hsieh and Suzuki as applied to claim 7 discloses that at least one document image is plural frames of images formed on a photographic film (see grounds for rejection for claim 7).

Regarding **claim 22**, the combination of Hsieh and Suzuki as applied to claim 7 discloses that the document images are plural frames of images formed on a photographic film (see grounds for rejection for claim 7).

Regarding **claim 29**, the combination of Hsieh and Suzuki as applied to claim 7 discloses that the document images are plural frames of images formed on a photographic film (see grounds for rejection for claim 7).

Regarding **claim 32**, the combination of Hsieh and Suzuki as applied to claim 7 discloses that the document images comprise plural frames of images formed on a photographic film (see grounds for rejection for claim 7).

Regarding **claim 40**, the combination of Hsieh and Suzuki as applied to claim 7 discloses that the document images are plural frames of images formed on a photographic film (see grounds for rejection for claim 7).

Regarding **claim 46**, the combination of Hsieh and Suzuki as applied to claim 7 discloses that the document images are plural frames of images formed on a photographic film (see grounds for rejection for claim 7).

Regarding **claim 48**, the combination of Hsieh and Suzuki as applied to claim 7 discloses that the document images comprise plural frames of images formed on a photographic film (see grounds for rejection for claim 7).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan K. Tyler whose telephone number is 571-270-1584. The examiner can normally be reached on M-F 7:30am - 5:00pm.

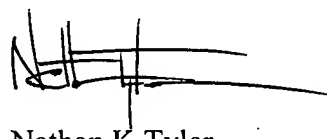
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Poon can be reached on 571-272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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KING Y. POON
PRIMARY EXAMINER

Supervising Patent



Nathan K. Tyler
Examiner
Art Unit 2625